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ABSTRACT

This paper describes cooperative learning strategies to increase high school and middle school students' motivation for doing well in school. The targeted population consisted of middle school students in a physical education and science classes, and high school students in science, technology, and special education classes. Both schools are located in a middle-class, suburban community in Illinois. Analysis of probable cause data indicated that many students did not participate in class regularly but rather came to school to socialize. Research reports that students with poor motivation are often bored in school and have poor relations with their teachers. Cooperative learning was chosen as the best strategy for intervention following a review of research on strategies to improve student motivation. The results of the actions taken showed a slight increase in targeted behaviors in students. It was noted that students became less dependent on teacher assistance and more cooperative with each other. Evaluation instruments are appended. (Contains 35 references.) (JDM)

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IMPROVING STUDENT MOTIVATION

THROUGH COOPERATIVE LEARNING AND OTHER STRATEGIES

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the Graduate Faculty of the School of Education in Partial

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ABSTRACT

This research paper describes strategies for increasing high school and middle school students' motivation for doing well in school using cooperative learning. The targeted population consisted of middle school students in a physical education and a science class, as well as, high school students in science, technology, and special education classes. Both schools are located in a middle class suburban community in Illinois. The problem of motivation was documented using observation checklists, student surveys, and staff surveys.

Analysis of probable cause data indicated that many students do not participate in class regularly but come to school to socialize. A review of the research suggests that students do not put forth 100 percent effort, are bored in school, and experience poor relations with their teachers.

A review of solution strategies suggested by the literature, combined with an analysis of the problem setting, resulted in the selection of cooperative learning as our main intervention for improving student motivation in the classroom.

As a result of the actions taken a slight increase in the targeted behaviors were noted. However, students became less dependent on teacher assistance and more cooperative with each other.

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

The students in the targeted middle and high school science, physical education, vocational education, and special education classes exhibit a lack of motivation that is displayed through their lack of homework completion, poor attendance, low class participation, and poor student/teacher relationships. Evidence for the existence of such a problem includes student behavior checklists, teacher anecdotal records, student/teacher surveys, observations, and progress reports.

Immediate Problem Context

This action research project takes place in two medium sized schools in the same community: a middle school and a high school. Site A is the middle school that serves grades six through eight. Site B is the high school that serves grades nine through twelve. The schools are located in a suburb of a major metropolitan area. The information in the following

tables was derived from the 1999 school report cards from both schools.

Table 1 represents the racial/ethnic background and the total enrollment of both sites for the 1999 school year. Even though both schools serve the same community, Site A along with three other schools feed into Site B, thus the discrepancy in both the enrollment and the ethnic makeup of the student body. The majority of both schools are white, with a second high percentage of Hispanic students. The staff make up is quite different as shown in Table 2. Both schools have a predominantly white staff. In addition, Site A has mostly female teachers in contrast to Site B where the male/female ratio is almost even.

Table 1

Racial/Ethnic Characteristics and Total Enrollment

	White	Black	Hispanic	Pacific Islander	Native Americans	Total Enrollment
Site A	75.10%	1.80%	17.60%	5.20%	0.30%	732
Site B	71.20%	2.70%	21%	4.90%	4.90%	1711

Table 2

Racial/Ethnic Characteristics of the Staff

Total Number	White	Black	Hispanic	Asian/ Pacific Islander	Native American	Male	Female
Site A 131	97.7%	0%	1.5%	0.8%	0%	13.8%	86.2%
Site B 108	95.7%	0%	3.7%	0.6%	0%	53%	47%

Table 3 shows other characteristics of students at both sites. Some of the differences can be attributed to the fact that Site B has students from different schools, as well as, a different age group.

Table 3

Student Profiles

	Average Class Size	Low Income	Limited English	Attendance	Mobility	Chronic Truancy
Site A	26.3	17.5%	1.2%	94.6%	17.2%	0.6%
Site B	19.3	10.1%	2.7%	91.3%	5.1%	2.4%

There is an interesting difference in the staff profiles between Site A and Site B. Table 4 shows that the majority of the teachers at Site A have only a Bachelors Degree, whereas the majority of the staff at Site B have a Masters Degree.

Table 4

Staff Levels of Education and Pupil Ratios

	Average Teaching Experience	Bachelor Degree	Master or Above	Pupil Teacher Ratio	Pupil Certified Staff Ratio	Pupil Administrator Ratio
Site A	10.7 yrs	77.7%	22.3%	19.7:1	15.2:1	287.1:1
Site B	12.7 yrs	35.4%	64.6%	17.5:1	12.4:1	129.3:1

Site A, located in a growing middle class district, is a middle school containing the science and P.E. classes for grades six through eight. The school was built in 1959. It has had five additions, with a much needed addition added recently in the fall of 1998 due to overcrowding. It is anticipated that enrollment will tax out in the year 2001. The layout of the school consists of three wings, one for each grade level. The wings are joined by a commons area which also serves as the lunchroom and was part of the new addition. The school program includes language arts, math, science, social studies, physical education, health, and fine arts. The physical education program is coeducational and is a required course. Students in 7th and 8th grades are required to change clothes into black shorts and a white or gray t-shirt. The students are graded on both achievement and effort. There is a full athletic and after school club program in place, which is sponsored by a strong

parent organization. There is also a special program for free or reduced lunches.

Site B, containing the vocation education, special education, and science classes for grades 9 through 12, is a high school in a growing middle class district. The school was built in 1967 and is situated on a 40-acre campus that includes tennis courts, four gymnasiums, an indoor Olympic-sized pool, and football, baseball, and soccer fields. The original building includes 50 classrooms, administrative offices, the cafeteria, auditorium, main gym, and the music wing. Two additions were added over the years including adding 20 classrooms, a foreign language lab, a natatorium, and a gym with an elevated running track. In 1996 another addition and major renovation project took place. This addition provided 20 new classrooms, a new media center with computer labs, and renovations of the math and science classrooms. Furthermore, the building is now air-conditioned as of the summer of 1999.

Site B runs on a four-by-four block schedule and has a wide variety of classes offered in all of the major academic areas, as well as many elective classes in the arts, music, consumer science, and applied technology. The Earth Science class is a graduation requirement. The students are graded on the 30 labs and note-taking. The Exploring Technology class is an elective course in the industrial education department. The major

emphasis of this course is hands on lab work, which make up 40% of the students' grade. Students rotate through 12 different modules completing experiments, worksheets, quizzes, and tests. The special education program is departmentalized by subject so each teacher only teachers one subject at a time. Most of the classes are mixed with resource students with learning disabilities (LD) and behavior disorders (BD). Each student is on an individualized education plan (IEP) and taught at the level that student is currently at.

This site has an emphasis on college preparatory classes and more than 85% of Site B students continue their education. Students can also participate in a wide variety of after school activities including sports, clubs, and different types of student productions. This site also has a program for free and reduced lunches.

Along with the block schedule, Site B also offers other programs to accommodate students' needs. In 1999 the Bridge Program for summer school was developed to provide opportunities for at-risk incoming freshmen. Another program that has gained popularity over the past three years is the NovaNet program. This is a computer tutorial for students at high risk for dropping out of school. In addition to the block schedule, an Academy Program was developed to provide an alternative, integrated studies program for those interested. All of the

above programs are in place to provide the community with varied ways for its students to be successful as they enter maturity and become active members of the community.

Surrounding Community

The programs described above benefit the families from both sites since both sites are located in the same town, on the same street, kitty-corner from each other. Due to the proximity of the sites, the racial demographics of the locations are identical (see Table 5). The community is predominantly white, but has a steady increase in the Hispanic population, which has doubled in the past seven years. The bilingual enrollment has tripled at Site A in the last two years. Title 1 needs have steadily increased along with a dramatic rise in students with special needs. The population has increased by 30% over the past seven years. Along with an increase in population, there has been an increase in the poverty rate which is at its highest in years at 16%.

Table 5

Percentage of Race in Community - Population Total 28,012

White	Hispanic	Black	Asian	Other
74%	18%	1.6%	6%	0.16%

The majority of the population (75%) live in single family units with an average home value of $139,027. The average

household income is $67,786. There has been a big change over the past ten years in these demographics due to many new housing developments in the area. The job types of the residents include a majority agriculture (1.2%), construction (5.6%), manufacturing (25.4), transportation (3.5%), communications (1.1%), wholesale trade (4.5%), retail trade (17.9%), finance & real estate (9%), service (32%), and public administration (3.9%).

Site A's district, including the middle school and three elementary schools, covers five square miles and Site B, a one school district, covers 36 square miles. The administrative structure of both sites consists of two separate school boards. Site A's average administrative salary is $77,000 with a principal and a vice-principal. Site B's average administrative salary is $93,000 with a principal and two vice-principals. The per-pupil expenditures, including both instructional and operational, for Site A is approximately $8,000 and for Site B is approximately $15,000.

Both districts receive excellent support from parents and the community, although the support is not representative of the whole school community. At this time, Site B is searching for a new principal, as the current one is retiring at the end of this school year. Other than that, both sites are not going through any referendums or reconfigurations. Both sites, however, are

always interested in better ways to identify and address student success factors.

National Context of the Problem

The issue of student motivation is a growing concern among many teachers today. To understand this problem, however, one must understand what motivation is. Rothstein (1990) and Woolfolk (1990) defined motivation as a force for students' learning goals, the activities they pick to participate in to reach these goals, and the intensity in which they engage in these activities. Basically that means that to motivate is to provide someone with an incentive to so something. No human is totally unmotivated (Glasser, 1998); there is an incentive for everyone. Personal goals determine why people do what they do, and the content of these goals direct them. Unfortunately, far too many students are refusing to work for goals that have a far too distant payoff (Glasser, 1998) or incentive. In addition, although students may be motivated to perform a task, the sources of their motivation may vary greatly (Lumsden, 1994) since motivation can take place either intrinsically or extrinsically.

Low motivation can often be evidenced by low levels of effort, inattention, poor task persistence, class cutting, and high rates of other disciplinary problems (Ekstrom et al.,

1986). Young children appear to be driven by curiosity and a need to explore their surroundings, but unfortunately as children grow, their passion for learning seems not only to shrink, but also becomes associated with drudgery (Lumsden, 1994). Studies have shown that in particular there is a sharp decline in motivation during the crucial period of the transition to middle school from the elementary level (Eccles & Midgley, 1989; Eccles et al., 1993; Anderman et al., 1999). Researchers note that the drop in motivation toward school is disturbing at any age, but is especially critical at the middle school level when a lack of motivation may have effects throughout the students' lives (Lane et al. 1997). One study revealed that many middle school students are bored with schoolwork and merely cut themselves off to what is going on in the classroom (Land et al., 1997). Another study found that the students interviewed readily admitted that they are not putting forth 100 percent effort to learn new material (Lane et al., 1997). Lumsden (1994) found that a large number of students, almost one in four, leave school before graduating and many others are just physically present in the classroom and fail to invest themselves in the experience of learning. According to Murdock (1999), adolescents who leave school early are disproportionately from low socioeconomic backgrounds and from African-American or Hispanic ethnic groups. As you can see,

research has provided plenty of evidence that students today lack the motivation needed to be successful in school.

Chapter 2

PROBLEM EVIDENCE AND PROBABLE CAUSE

Problem Evidence

In order to document the lack of student motivation three types of materials were used: a student survey, an observation checklist, and a teacher survey. The purpose of the student survey (see appendix A) was to have students reflect upon their own motivational levels and behaviors. Students were also questioned about the qualities they believe teachers should possess and if their teachers possess these qualities. The observation checklist (see appendix B) was utilized during a period of one week. A group of 125 subjects were monitored for four particular behaviors; punctuality, class preparedness, time on task, class participation. The subjects were observed during a forty-five minute class period on three occasions using an interval of fifteen minutes. Results of the checklist are shown below in Table 6.

TABLE 6.

Observation Checklist Results

Site	Percent Of subjects that represent these behaviors tardiness	unprepared	off task	not participating
A	23	35	56	42
B	28	31	58	37

The last assessment used in the study was a survey of staff members. (See appendix C) Staff members were questioned about their perception of students' motivations and strategies used to increase motivational levels within their students.

Probable Causes-Literature Based

After data collection and review of literature it is apparent that there is a lack of motivation present in schools, and specifically in the targeted population. This section will try to uncover some of the possible causes for this problem. One of the main causes for lack of motivation is the negative self-perception that is possessed by today's students.

"Students perceptions of their educational experiences generally influence their motivation more than the actual, objective reality of those experiences (Anderman, et al. 1998)." In most students it is how they perceive situations in school that motivates them, and not what actually happens. Not only are the perceptions of situations important, but also more so is the perception of one's self. When students do not view themselves as basically competent and able, their freedom to engage in academically challenging pursuits, and the capacity to tolerate and cope with failure are greatly diminished (Lumsden, 1994). Students of the targeted ages are filled with self- doubt and are dealing with many internal problems. Many educators believe in what is called a "self-fulfilling prophecy" which states those students will perform at the level in which teachers hold them accountable to. Anderman (1998) further expresses that, "when students have a history of failure in school, it is particularly difficult for them to sustain the motivation to keep trying." Teachers must find a way to get students to believe in themselves again in order to truly motivate them to learn. These problems as well as the students need to belong can damage the success of any student. If students' social needs are not being met at school, optimal learning will not take place (Heller & Sottile, 1996). Another cause for the lack of motivation is the poor relationships between teacher and

student. "Students who choose to leave high school cite poor relations with teachers as among the most critical factors influencing their decision to leave school (Farrell, 1990; Fine, 1986, 1989; Wehlage & Rutter, 1986)." Above all teachers must find a way to reach their students and form solid working relationships based upon respect. Johnson (1998) states that students believe that they will be ridiculed for their mistakes, they are tired of being compared to students their own age, and often find that their good behavior goes unnoticed. These issues directly relate to the relationship formed between those students and their teachers. Teachers and students must have a mutual respect for each other so that these issues do not exist and that learning will occur. Teachers are always saying students are not motivated, but what they are actually saying is that they do not know how to persuade students to work (Glasser, 1998).

Probable Cause - Site Based

Another probable cause that the researchers at both sites A and B have discovered is the dissolution of the traditional family combined with the stereotypes associated with minority students. Many of the subjects in the targeted classrooms belong to non-traditional families. There are also a large number of minority children in this targeted population that may

often lead to low motivational levels. A children's home environment may shape the initial constellation of attitudes they develop toward learning (McInerny, 1998). McInerny (1998) further states that, "it is commonly believed that cultural minority children may be poorly motivated because schools stress goals that are incompatible with their cultural values." The students in the targeted classrooms seek to find peers that are similar to them. In doing this, there are groups consisting of entirely minority students. These peer groups in turn, segregate along economic, racial and achievement lines. Those students who are more likely to withdraw from school are likely to have friends with similar negative school experiences (Murdock, 1999). Fortunately, there are solutions to these problems.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

In all school classrooms there are students that display a desire to attain a high level education or lack the desire to attain any education. It is this desire or lack of it that has prompted research and debates concerning the factors that influence the students' motivation. Motivation, as defined by Wlodkowski(1999) "is the natural human capacity of direct energy in the pursuit of a goal, and learning is a naturally active and normally volitional process, but that process cannot be separated from the cultural context of the classroom or from the background of the learner." Humans since birth have the natural desire to learn to sit, crawl, walk and talk because it directly relates to our environment and the ability to survive. Parents' encouragement and the physical ability to perform the skill at a particular age help to develop intrinsic motivation.

Teachers are interested in developing a particular kind of motivation in their students–the motivation to learn. Brophy (1987) stated "student motivation to learn is a student tendency to find academic activities meaningful and worthwhile and to derive the intended academic benefits from them"(p.205). He further indicated that motivation to learn could be both a general trait and a situation-specific state. The general trait of motivation to learn is evident most often in people who find learning intrinsically rewarding, who value it as a worthwhile and satisfying activity. Also, students may have the trait as a sense of duty; they may believe they should get the maximum benefit from any experience, even if they did not choose the experience in the first place. The state of motivation exists when students take lessons and activities seriously. Students try to understand and improve, not just finish the work to get the grade. They pay attention, work hard and persist, even if they are not particularly interested in the topic.

Most educators use the word motivation to describe those processes that can (a) arouse and instigate behavior, (b) give direction and purpose to behavior, (c) continue to allow behavior to persist, and (d) lead to choosing or preferring a particular behavior (Wlodkowski, 1984). Thus, when teachers ask questions such as "How do I help my students get started?" or

"What can I do to keep them going?" or "What should they do next?" they are dealing with issues of motivation.

Strategies for supplying extrinsic incentives link successful task performance with delivery of consequences that the students value. Grades, of course, are one consequence. Other consequences include: (a) material rewards (prizes, trinkets); (b) activity rewards and special privileges (opportunities to play games, use special equipment, or engage in special activities; (c) symbolic rewards (honor roll, posting good papers); (d) praise and social rewards; and (e) teacher rewards (opportunities to do things with the teacher). Teachers should be cautious about relying too heavily on extrinsic rewards.

1. Offer rewards as incentives. Rewards will motivate students to put forth effort, especially if they are offered in advance as incentives for reaching a certain level of performance. Rewards are more effective when used with routine tasks, when trying to produce mastery of specific skills and when speed of performance or quantity of output is more of a concern that creativity or craftsmanship.
2. Structure appropriate competition. Excitement and incentives can be provided by competition to receive prizes or recognition. Students can compete either as

individuals or as teams. Team approaches may be more desirable because they can be structured so students cooperate in addition to competing.

3. Call attention to the instrumental value of academic activities. Teachers can call students' attention to the usefulness of the knowledge and skills taught in schools to their lives outside of school. In addition, teachers can help students appreciate the more specific applications of what they are learning at school.

Teachers need to recognize that their opportunities to use intrinsic motivational strategies are limited and that they do not directly increase the students' motivation to learn the content or skills taught (Spaulding, 1992). However, teachers can capitalize on students' existing intrinsic motivation by selecting instructional activities that students will engage in willingly because they enjoy them or because the activities in corporate content that interest the students.

1. Adapt tasks to student interest. Teachers can use a variety of approaches for adapting instructional tasks to student interests. This can be done by (a) incorporating content that students find interesting or activities that they find enjoyable, (b) offering choices of alternative tasks or opportunities to

exercise autonomy in selecting among alternative ways to meet requirements, (c) encouraging student comments and questions, and (d) including divergent questions and opportunities for students to express opinions or make other responses to the content.

2. Plan for novelty and variety. Teachers should try to make sure something about each task is new to the students, or at least different form what they have been doing recently. Call attention to the new element, whether it is new form, content, media involved, or the nature of the responses the activity requires.

3. Provide more opportunities for students to respond and to receive feedback. Teachers should provide students with opportunities to respond actively-to interact with the teacher or with one another, to manipulate materials, or respond in some other way than merely listening or reading.

4. Incorporate "fun features." Features that students find enjoyable can be planned into most academic activities. These fun features can be achieved with fantasy or imagination elements, simulation exercises, game like features, and peer interaction opportunities.

A growing body of evidence suggests that there is an advantage toward learning if the student is intrinsically motivated. Students tend to employ strategies that demand more effort that enable them to process information more deeply (Lepper, 1988). J. Condry and J. Chambers (1978) found that when students were confronted with complex intellectual tasks, those with an intrinsic orientation used more logical information gathering and decision-making strategies than did students who were extrinsically oriented.

Students with an intrinsic orientation also tend to prefer tasks that are moderately challenging, whereas extrinsically oriented students gravitate toward tasks that are low in degree of difficulty. Extrinsically oriented students are inclined to put forth the minimal amount of effort necessary to get the maximal reward. (Lepper, 1988). Wlodkowski (1999) proposed that the prevailing question in an extrinsic system of motivation is "How do I motivate them?" This question implies that teachers view less motivated students as dependent, less capable of self-motivation, and in need of help from a more powerful other. Teachers are less likely to trust these students in student-centered approaches to teaching and learning but an intrinsic motivated student's voice and perspective are heard and appreciated. This difference of reciprocity between the teacher and student helps educators to be aware that the responsibility

for learner motivation is not only the students but also the teachers and structure of courses (Wlodkowski, 1999).

Teachers vary in the styles they use to teach and motivate students. Research on teachers' motivating styles goes hand in hand with research on the quality of students' motivation, usually because of the assumption that the quality of a students' motivation depends on the quality of a teachers instructional style (deCharms, 1976; Eccles & Midgley, 1989). One particular study concluded, "school motivation cannot be divorced from the social fabric in which it is embedded." The quality of a student's motivation does depend on the quality of a teachers' interpersonal motivating style (Weiner, 1990).

Research on motivation shows a drop in student motivation with the transition to middle school (Eccles & Midgely, 1989 Eccles et al., 1993). Some experts theorize that the middle school years may be the final opportunity to reverse the decline in motivation, before students become totally disillusioned with school. The importance of teacher motivation techniques seems then to center on those middle school years.

Two particular styles of motivation teachers use are controlling or autonomy supportive. These two styles are stable over the course of an academic year for research. The controlling teacher likes to control students' behavior so desirable actions occur more frequently. They target a

particular way of thinking and offer incentives and consequences for student progress. Autonomy supportive teachers support student ideas, and motivate those ideas through student interest and values. Students in classrooms with autonomy supportive teachers, as compared with controlling teachers, are more likely to stay in school (Vallerand, Fortier, & Guay, 1997). They show greater perceived academic competence (Deci, Schwartz, et al., 1981), greater conceptual understanding (Benware & Deci,1984; Grolnick & Ryan, 1987), higher academic intrinsic motivation (Deci, Nezlek, & Sheinman, 1981), higher academic achievement (Flink, Boggiano, Main, Barrett, & Katz, 1992) and are more positive emotionally (Patrick, Skinner, & Connell, 1993).

The typical middle and high school is characterized by rules, control, and discipline. Teachers are seen as more remote and impersonal than elementary teachers (Feldaufer, Midgley, & Eccles, 1998). However, the middle and high school student seeks to be independent with questions of competence and identity.

The environment of many schools is much more like the controlling style of some teachers. Another topic for discussion could be how school reform might help student motivation. In short, a warm autonomy supportive style teacher gets better results. Middle and high school students have higher motivation when they perceive their teachers as

challenging them with complex tasks, supporting them in their success, and providing opportunities for them to act autonomously (Eccles, 1993; Goodenow, 1993; Midgely, Feldaufer, & Eccles, 1998; Wentzel, 1997).

Research has indicated that it is not just the change from elementary school to secondary school, but what the schools do. The way schools evaluate, reward, recognize, and group students can promote motivation. For example, teachers in a middle school study eliminated most ability grouping, introduced interdisciplinary units, team teaching, and recognized all students for success. The use of such strategies raised motivation and achievement (Ames, 1990; Fuch et al., 1997).

Reforming middle and high schools to motivational research is not easy. Teachers in secondary schools see well over 100 students a day, making it difficult to meet the need of individual students. According to Lynley Hicks (1997) motivating students at school takes integrating what motivates them socially with our academic expectation. Hicks explains that schools organize themselves in direct conflict with academic concerns, of the adolescents in direct conflict with academic concerns, and therefore force students to choose which ones are more important to address. For example, many schools try to eliminate as much non-academic time as possible. Passing time and lunch breaks have been shortened therefore not allowing

students to meet their social needs while at school. Lynley Hicks (1997) suggestion is to facilitate academic engagement by working with students' social motivation, rather than against it by incorporating more collaborative group work into classes. This is not necessarily the easiest tactic to develop in the classroom. Students must be held accountable and regulate the balance between social and academic involvement. Hicks explains the importance of creating groups of students who may not be seen together outside of class, reinforcing diversity and honoring varying strengths so that all can be recognized, even those who in the past may not have been motivated. A group level effort of this nature can help to address the needs of individual students.

The Theory of Multiple Intelligences as a Motivation

One teaching strategy to increase the motivational level of students while emphasizing the individual student's needs is the theory of multiple intelligences. This theory stemmed from the work of Howard Gardner while he was studying at the Boston University School of Medicine and at Harvard University. Gardner believes that the purpose of intelligence is to solve and create problems, which means the brain should be equipped with skills to do these two tasks. After studying problem solving in different cultures around the world, Gardner came up with his famous theory of "multiple intelligences." Gardner

(1983) believes that everyone possess eight different types of intelligence. The eight types of intelligences are as follows: verbal/linguistic, musical/rhythmic, logical/mathematical, visual/spatial, bodily/kinesthetic, naturalist, interpersonal and intrapersonal (Gardner, 1983).

Many of the underlying principles of the work of Howard Gardner rely on the teachers' understanding of how to use the principles in the classroom. Teachers must create a classroom in order to provide a successful environment to fully motivate their students. It is important for teachers to understand some principles of intelligence to which Gardner's work is connected (Chapman, 1993). There are four main aspects to the theory of "multiple intelligences."

1. Each of the intelligences is modifiable. There are opportunities to increase an intelligence or to see the intelligence regress to a minimal level.
2. Intelligence can be taught. For example, Michael Jordan may have been born with a large bodily/kinesthetic intelligence and William Shakespeare a large verbal/linguistic intelligence. They have developed their special talents beyond what they were born with (Chapman, 1993).
3. Each person is born with each type of intelligence. The different cultural influences each person

experiences affect some intelligences to develop strongly, others slightly, or not at all (Gardner, 1983).

4. Teachers can modify the intelligence of students. Teachers can create the right conditions to help the development and/or remove conditions that hinder the development of certain intelligences.

There are two ways that teachers can use this theory to motivate students:

1. To make students feel successful. Gardner states that each person is equipped with all of the intelligences therefore students should be encouraged to use their prominent intelligence. Enrich lessons and units with instructional strategies that promote a variety of intelligences, not just the logical/mathematical and the verbal/linguistic (Chapman, 1993). Teachers can teach the material in a different and more exciting manner. When Students are encouraged to expand their strengths, they are more likely to enjoy their work and pursue increased competence with confidence (Csikszentmihalyi, 1990). Teachers will see their students having more success and in turn students can relate this success to

further schooling. When students are doing well in school, they will want to be there.

2. Restructure the classroom and curriculum. Teachers may not be able to change the topics taught in the class but they can change the method of instruction and assessment. To motivate students, teachers should consider using the "multiple intelligence" theory to design lessons and units.

If students are lacking at certain intelligences then teach to these intelligences to create a well-balanced learner (Gardner & Hatch, 1998). This also includes responding to individual needs of students. "In this age of inclusion, multi-age grouping and de-tracked classroom, a teacher may feel overwhelmed with the diversity that exists. Teachers must use the multiple intelligences to differentiate instruction for special needs" (Chapman, 1993). When setting up their classroom teachers should keep the multiple intelligences in mind. The use of "multiple intelligence centers" is a great way to provide opportunity to use all eight of the intelligences for a topic or unit. For example, when the class reads a particular story a web using the eight intelligences can be completed as a learning guide and assessment. This variety in teaching styles offers each student an opportunity to understand the concepts taught which increases the motivation of the students.

Multiple Intelligences is one of the theories used in the brain-compatible classroom. By stimulating the senses, teachers effectively motivate the students to use their intelligences and awareness of their education. A focus of brain-based learning is to structure class lessons around real-life problems, both inside and outside the school building. Three instructional techniques cited with brain-based learning are (On Purpose Associates, 1998):

1.Orchestrated immersion is when you create an environment that fully immerses students into an educational experience.

2.Relaxed alertness by eliminating the fear, but highly challenging the students.

3.Active processing allows the learners to internalize information.

Emotional Intelligence as a Motivational Tool

Incorporated in the brain-based education is Daniel Goleman's theory of emotional intelligence. Research in brain-based education suggests that emotional health is a key to effective learning. Emotional intelligence is basically knowing your emotions, handling them appropriately, directing them to a goal, recognizing feelings in others, and managing relationships (Funderstanding, 2000) As educators, it is important to see the relevance emotional intelligence has in motivating students to

succeed. Research suggests that emotional intelligence is a better predictor of future success than models such as GPA, IQ, or standardized tests. Gibbs (1995) states that students who are depressed or angry cannot learn, that students who are not accepted by their peers are more likely to drop out, and that those with an inability to handle frustration can lead to problems like eating disorders. If schools would teach emotional self-awareness, then the students would be better equipped to deal with issues and not let it interfere with their success in school.

Active Learning as a Motivational Strategy

Another strategy to increase motivation often mentioned by researchers is active learning. Bonwell and Eison (1991) define active learning as "instructional activities involving students doing things and thinking about what they are doing." Some general characteristics associated with active learning are (Bonwell & Eison, 19991):

1.Students are involved more than listening.

2.Less emphasis is placed on transmitting information and more on developing student's skill.

3.Students are involved in higher-order thinking (analysis, synthesis, evaluation).

4.Students are engaged in activities (e.g., reading, discussing, writing).

5.Greater emphasis is placed on students' explanation of their own attitudes and values.

Cooperative Learning as a Motivational Strategy

One effective strategy to promote active learning as stated by Bonwell and Eison (1991) is cooperative learning. In addition, the use of cooperative learning in classrooms has its own benefits. Studies have shown that cooperative learning has a positive effect on race relation, self-esteem, dropout rate, and cooperation in other settings (Bonwell & Eison, 1991). Johnson and Algren's study (as cited in Langford & Cleary, 1995) stated that a cooperative learning environment "promoted positive relationships among students, motivation to do well as students, willingness to get involved in learning activities, positive self-attitudes, and a variety of other affective and cognitive learning outcomes including higher achievement."

Cooperative Learning is not a new classroom strategy in education but has recently been renewed as a motivational process student' acknowledge. John Dewey, Kurt Lewin and Jacob Moreno from 1920 to 1945 were the first educators to promote group research and a democratic foundation in education. John Dewey emphasized the role of schools to prepare students for problem solving in a democratic, social, environment. Kurt Lewin's action research project promoted group dynamics that was accepted by fellow scholars as a productive method of learning.

Jacob Moreno stressed methods of sociometry and role-playing in the classroom. The combination of John Dewey, Kurt Lewin and Jacob Moreno ideas encouraged school improvements.

The practical application of John Dewy, Kurt Lewin and Jacob Moreno did not happen until the formation of the National Training Laboratories in 1948. Ronald Lippitt, a student of Kurt Lewin and a member of the National Training Laboratories, focused on the intergroup social problems of communities and institutions. He initiated action research in the classrooms that lead to the development of other projects on a topic. Jack Kounin, another student of Kurt Lewin, adapted social group techniques to classroom management and discipline; and Morton Deutsch developed research on cooperation and competition in the classroom.

The National Training Laboratories now titled NTL: The Institute for Applied Behavioral Science was influential in changing educational strategies in the 1960's and 1970's. In communities and other institutions social group experiences were being developed but emphasized individual and personal growth rather than concepts to social change. Many scholars in development of social group processes were members of the T-group as it was popularly labeled.

Action research was presented at the Horace-Mann-Lincoln Institute of School Experimentation by Alice Miel in 1952 to

encourage teachers to use cooperative learning experiences in the classroom. Research on the group techniques improved during the 1960's and verification of the learning strategy had been published. The*59th Yearbook of the National Society for the Study of Education* (Henry, 1960), for example, presented social psychological theory about classroom groups and proposed way of using research findings to improve instruction (Schmuck & Schmuck, 1992). Ned Flanders devised systematic charts to study teacher-student interaction in the classroom and was published in journals for teachers to use. The American Educational Research Association, in 1961, held a conference on "Effects on Mental Health of Interaction Within the Classroom." After that conference, a common theme of educational books was the interaction of the teacher and the student, teacher and the class, and students to each other (Schmuck & Schmuck, 1992).

An increase in number of studies on the subject was encouraged by an increase in funding from the federal government. The baby boom era gave rise to an increase in students and teachers. Also concern about the Soviet scientific gains, civil rights, and the war on poverty helped to increase federal funding and studies to improve educational strategies in America.

Effective School Reform

In the 1980's, federal funding leveled and emphasis on education changed to the Effective School Reform (Schmuck & Schmuck, 1992). The focus of the school was a competitive race with the world marketplace and individual rights. The President of the United States, to oversee the mediocrity of education, established the Committee on Education Excellence. One debate among educational scholars was that of the student's success being dependant on the socio-economic status. Ron Edmonds wrote according to Schmuck & Schmuck (1992) that the instructionally effective school would bring the skills of the poor children to the minimal mastery performance level of the middle class. The effective school research coincided with the effective businesses and industries research. According to Schmuck and Schmuck (1992) organizational theorists, Kanter and Schein, as well as popular writers, Peters and Waterman conducted research on highly effective businesses with high profit margins and comfortable work places. The characteristics of the organizations, businesses and schools, were supported social climates, positive reinforcements, and feelings of power and achievement. According to Robert Slavin (1991) cooperative learning is a method that prepares students for an increasingly collaborative work force.

Quiet schools used to be thought of as a learning school. Now many schools foster the use of collaborative grouping of students to achieve learning (Slavin, 1991). This revived learning strategy has turned the quiet school into a cooperative, effective vocal school. According to Theodore Panitz (1999) the following motivational benefits result from the use of cooperative learning in the classroom:

1. Creating a favorable disposition toward the learning experience through personal relevance and choice.
2. Enhances student self-esteem by the higher degree of accomplishment by all participants.
3. Enhances student satisfaction with the learning process by actively involving students in designing and completing class procedures and course content.
4. Promotes mastery through discussing, debating and clarifying their understandings of the concepts.
5. Reduces classroom anxiety created by new and unfamiliar situations.
6. Test anxiety reduced by providing alternative assessments.
7. Develops positive student and teacher attitudes through open lines of communications.
8. Sets high expectations for students and teachers by being responsible for ones learning.

9.Establishes inclusion by creating a learning atmosphere in which learners feel respected and connected to one another.

10.Develops students' social interaction skills.

The benefits indicate that all schools should adopt cooperative learning. In some situations and classrooms, cooperative learning may not be the ideal strategy. According to Schmuck & Schmuck (1991) the mere presence of other persons who are working on a similar task has been shown to have significant effects on the intellectual and motor performances of an individual. Research performed by F. Allport in 1924 compared the achievement of individuals performing with other persons physically present to those of individuals working on the same tasks alone. The research indicated that the mere presence of other coacting persons had a detrimental effect on the performance of simple motor tasks and had more negative impact on the individual as the task became more complex. Students who are placed in undesirable grouping situations tend to function ineffectively and feel insecure.

One weakness in cooperative learning (Randall, 1999) is the basic premise upon which cooperative learning is based-that the members of the group are responsible for each other's learning. Failure is a burden that teachers don't relish and it is inappropriate to place it on ones peers. A grade being shared

by the members of the group when one person does most of the work or answers the questions is an unfair factor of cooperative learning. The design of the group is another consideration that can be unfair and degrading. Each group needs to have one high-achieving student, two average achieving students and one low achieving student in order for the group to accomplish the tasks and report to the teacher in an articulate fashion. The high achieving student also becomes the teacher who then is expected to explain the content to the lower achieving students over and over again. The low achieving student also understands their position in the group and can be disruptive or insubordinate. Randall (1999) quotes Robert Slavin, "Cooperative learning is simply an instructional method, a means of effectively transmitting knowledge skills to students." Then explains the flaws in this statement as lending itself to fact-based activities that need to learned or mastered. "The cooperative learning group therefore becomes another vehicle by which knowledge is to be acquired rather than thinking encouraged."(Randall, 1999)

Randall does recommend that cooperative learning be used in the classroom but not as the dominant learning strategy. Grouping students after working on different activities to share what they have learned or to reflect on learning would be the preferred method. Students also need to be taught how to work

cooperatively and not as individuals in a group. Schmuck & Schmuck (1991) cited research by Sharan and Sharan (1976) when students are taught to work interdependently and cooperatively on learning tasks, they can learn the material faster and retain it longer than when they are given mass instructions with no attention to collaboration and helping. The concept of teaching students how to work interdependently and cooperatively and the effect it has on the students' motivation in school is what these researchers chose to implement in their action research project.

Project Objectives and Processes

To observe if cooperative learning during a period of August 2000 to October 2000, the high school Behavior Disorder students, Earth Science students, Woods students, and the middle school Physical Education students and Physical Science students from the targeted classes will increase their ability to be on time to class, prepared for class, on-task, and participate during class, as measured by teacher-constructed cooperative learning schedule and checklist to verify behavior.

In order to accomplish the project objective, the following processes are necessary:

1. Cooperative learning strategies will be developed to use in each classroom situation.
2. Surveys will be developed and administered to the students pertaining to motivation in school.
3. Cooperative learning training for students will be implemented.
4. Checklists will be used by the teachers to monitor behavior in the class.

Project Action Plan

WEEK 1:

- Collect initial data.
- Use cooperative learning strategies for three days to initiate bonding.

WEEK 2:

- Use cooperative learning strategies for three days in the content area.

WEEK 3:

- Continue to use cooperative learning strategies for three days in the content area.

WEEK 4:

- Continue to use cooperative learning strategies for three days in the content area.

WEEK 5:

- Continue to use cooperative learning strategies for three days in the content area.

WEEK 6:

- Continue to use cooperative learning strategies for three days in the content area.

WEEK 7:

- Continue to use cooperative learning strategies for three days in the content area.

WEEK 8:

- Continue to use cooperative learning strategies for three days in the content area.

WEEK 9:

- Continue to use cooperative learning strategies for three days in the content area.
- Collect final data.

DESCRIPTION OF COOPERATIVE LEARNING STRATEGIES

Four Corners

Teacher chooses a controversial topic then the students brainstorm related subtopics. Through a process of elimination four subtopics remain. Each of the corners of the room is assigned a subtopic then the students are asked to go to a subtopic they support. The groups chose a leader, a recorder and reporter. The topics are discussed within the groups, notes

are recorder and then the reporter gives a persuasive speech. After all the speeches are given a vote is taken to prioritize the subtopics.

Jigsaw: Used for reading articles or textbook chapters.

In a regular jigsaw a group of three students divide the reading material and read only his/her part. After reading the designated section, the three students discuss each section until everyone in the group understands the entire chapter or article.

In an expert jigsaw three articles or chapters are given a base group of three students. The students are grouped by the articles they are reading. After reading the entire article, the students discuss and note the important issues to be reported back to the base group. Each student in the base group will have the information from the three articles but only have read one article.

KWL

Used as a pre-lesson activity. A chart is drawn with three columns: what we know, what we want to know, and what we have learned. The students fill in the first two columns before the unit and the third column after the unit.

Matrix

This activity can be used for developing something with many characteristics. Using groups of three students, provide each group with one die and assign the following roles: researcher—finds information in the text, recorder—charts the information, and illustrator—draws diagrams and labels the illustrations with the designated attributes.

Each group is given a grid. On the grid the reporter writes various characteristics or variables from the information provided by the researcher. Once the grids are complete, the students roll the die for each column to determine the final characteristics of the object. Using the selected attributes, the illustrator draws the object. Each group presents and describes the diagram to class.

Pearls of Wisdom

A strategy used in problem solving and prioritizing a particular topic. Divide class into small groups and list key point of the topic. Each group shares their ideas and why they were important.

Think, Pair, Share

A strategy used after a brief lecture or discussion. With a partner the students summarize and discuss the key points of the lecture or discussion. The students then share something new they learned about the topic.

Traveler

Used as a review for a test or when the students have a large amount of information to process. Members of a group answer questions for a specified amount of time. If the students have difficulty answering the questions, one designated student is allowed to travel to other groups in search of the needed answers. After obtaining the necessary information the traveler then reports the information back to the base group.

Venn Diagram

A graphic organizer that illustrates similarities and differences of concepts. Two overlapping circles are drawn concerning two objects. In the portions of the circle with the listed objects, differences are written and similarities are listed in the overlapping portion.

COOPERATIVE LEARNING SCHEDULE

WEEK/DAY	RESEARCHER #1	RESEARCHER #2	RESEARCHER #3	RESEARCHER #4	RESEARCHER #5
1/1	Interview	2-4-8	Think-pair share	Kwl	Kwl
2	Kwl	Name bingo	Kwl	Venn diagram	Think, pair share
3	Prioritize	t-chart	Four corners	Four corners	Matrix
2/4	Matrix	Jigsaw	Kwl	Jigsaw	Jigsaw
5	Kwl	Traveler	Four corners	Kwl	Four corners
6	Jigsaw	Jigsaw	Kwl	Pearls of wisdom	Traveler
3/7	Draw this	Pre-read pair	Think pair share	Venn diagram	Kwl
8	Kwl	Jigsaw	Four corners	Traveler	Venn diagram
9	Traveler	2-4-8	Think pair share	Think pair share	Think pair share
4/10	Jigsaw	Partners	Kwl	Kwl	Jigsaw
11	Jigsaw	That's a good idea	Four corners	Jigsaw	Jigsaw
12	Kwl	Kwl	Think pair share	Venn diagram	Traveler
5/13	Brainstorm	Four corners	Four corners	Four corners	Matrix
14	Jigsaw	2-4-8	Kwl	Traveler	Kwl
15	Prioritize	Jigsaw	Kwl	Kwl	Venn diagram
6/16	Kwl	Jigsaw	Think pair share	Pearls of wisdom	Jigsaw
17	Prioritize	2-4-8	Four corners	Four corners	Four corners
18	Jigsaw	Kwl	Think pair share	Jigsaw	Think pair share
7/19	Kwl	Jigsaw	Kwl	Jigsaw	Jigsaw
20	Jigsaw	Partners	Four corners	Venn diagram	Matrix
21	Kwl	Jigsaw	kwl	Kwl	Venn diagram
8/22	Jigsaw	Jigsaw	Four corners	Jigsaw	Traveler
23	Prioritize	Four corners	Think pair share	Four corners	Pearls of wisdom
24	Prioritize	2-4-8	Kwl	Think pair share	Think pair share
9/25	Kwl	Kwi	Think pair share	Traveler	Kwl
26	Jigsaw	t-chart	Kwl	Venn diagram	Venn diagram
27	Jigsaw	2-4-8	Four corners	Four corners	Traveler

Methods of Assessment

In order to assess the effects of the intervention, teacher and student surveys were issued to understand attitudes and motivation in the classrooms. These surveys were administered before and after the intervention. In addition, the teachers used checklists to record tardiness, preparedness, on-task, and participation behaviors during fifteen minutes intervals.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to observe if cooperative learning, when implemented in the high school Behavior Disorder, Earth Science, and Woods classes along with junior high Physical Education and Physical Science classes, would increase their ability to be on time to class, to be prepared for class, to stay on-task, and to participate during class. Each teacher measured their behaviors with teacher-constructed cooperative learning schedules and checklists.

To accomplish the project objectives, the following processes were implemented in August of 2000 and ended in October of 2000.

1. Cooperative learning strategies were developed to use in each classroom situation.

2.Student and staff surveys pertaining to motivation in school were developed and administered to each of the subject classrooms.

3.Cooperative learning training was implemented to each subject classroom.

4.Checklists were used by each teacher of the targeted students' classrooms to monitor behavior.

The cooperative learning strategies used included; four corners, jigsaw, KWL, matrix, pearls of wisdom, think- pair-share, traveler, and venn diagram. Each teacher was required to use any of the aforementioned cooperative learning activities three times a week, with the same-targeted students, during the nine-week period. The activities were then logged into the Cooperative Learning Schedule each teacher was provided.

Presentation and Analysis of Results

In order to assess the student motivational levels and behaviors, an observation checklist (see appendix B) was used for a period of one week. A group of 125 subjects were monitored for four particular behaviors; punctuality, class preparedness, time on task, and class participation. The subjects were observed during a forty-five minute period using

an interval time of fifteen minutes. Results of the checklist are shown in Table 7.

Table 7

Observation Checklist Results

Site	Percentage of students that represent these behaviors			
	Tardiness	Unprepared	Off Task	Not Participating
A	20	30	48	39
B	24	28	51	34

The results of the Observational Checklist revealed: Tardiness: 22%, Unprepared: 29%, Off Task: 49.5%, and Not Participating: 36.5%.

The greatest challenge among the researchers was keeping the students on task, as evidenced by the results of Table 7. Student participation and preparedness were slightly lower in numbers but nonetheless a key factor in classroom management. About one fourth of the students came to class late. This seems to indicate the students' feelings towards being in that particular class or in school in general.

In addition to the checklist the students participated in a survey, (See appendix A). The purpose of the survey was to have students reflect upon their own motivational levels and behaviors. Students were also questioned about the qualities they believe teachers should and do possess.

The last assessment used in the study was a survey of staff members (See appendix C). Staff members were questioned about their perception of students' motivations and strategies used to increase motivational levels within their students.

Conclusions and Recommendations

In the nine-week study period, these researchers wanted to improve all four of the targeted behaviors stated in Table 7. For the most part, the study was a success. The cooperative learning strategies that were used improved the classroom climate. Working together was perceived as less threatening and asking other students for help became a normal part of class. Tardiness decreased and classroom discipline measures dissipated. While many of the cooperative learning strategies employed peaked the interest of the majority of the students, the length of the study period was not long enough to gather substantial results. Furthermore, a means of follow-up research pertaining to the transfer of the students' motivational levels in other subject areas would need to be generated to form a final conclusion on the impact of cooperative learning within the targeted classrooms.

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APPENDICES

Appendix A

Student Survey

Student Survey

1. Rate your motivation to do well in school: Very High / Somewhat High / Somewhat Low / Very Low

2. Are you on task in class? Always / Almost Always / Almost Never / Never

3. Do you want to come to school? Always / Almost Always / Almost Never / Never

4. Why do you want to come to school? _____

5. What are the 4 most important characteristics of a teacher you admire? **(Circle only 4)**

Friendly	Nice/Polite	Understanding	Attractive	Young
Challenging	Organized	Sense of humor	Structured	Fair
Unstructured	Old	Gives no homework		

6. Do your current teachers possess these 4 qualities? All / Most / Some / None

7. Do you volunteer to answer in class? Always / Almost Always / Almost Never / Never

8. What prevents you from volunteering in class? _____

9. Do you come to class on time? Always / Almost Always / Almost Never / Never

10. What prevents you from coming to class on time? _____

11. Do you come prepared to class? Always / Almost Always / Almost Always / Never

12. What prevents you from coming prepared to class? _____

13. How well do you like working in groups? A lot / Somewhat / Little / Not at All

14. How often do you work in groups in your classes?

Everyday	2-4 times a week	At least once a week	Once a month	Hardly ever	Never

Appendix B

Observation Checklist

Observational Behavior Checklist

Name	Tardy	Unprepared for Class	Off task	Did Not volunteer to Answer Questions

Appendix C

Staff Survey

STAFF SURVEY

1. Rate your student motivation to do well in class:

   Very high Somewhat high Somewhat low Very low

2. How often do your students stay on task:

   Always Almost always Almost never Never

3. Please list strategies you use to motivate your students:

4. Do you currently use Cooperative Learning?
   How often? (ex: 2 times a week)

5. If your answer was yes to number 4, what Cooperative Learning techniques do you use?

6. Why do you use Cooperative Learning?

7. Which of the following do you use to help students meet expectations:

   __ detentions __ call to parents __time outs

   __ candy __ praise __ referrals

   __ games __nothing __ bonus points

   __ meeting with students __ call to parents

   __ extra credit assignments

8. What is your comfort level in using Cooperative Learning?

   Very high Somewhat high Somewhat low Very low